

PATENT COOPERATION TREATY

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/006074

International filing date (day/month/year)
27.04.2004

Priority date (day/month/year)
28.04.2003

International Patent Classification (IPC) or both national classification and IPC
G11B27/10, G11B27/034, G11B27/036, G11B27/038, G11B27/34, G11B20/10, G11B20/12, G11B20/14,

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITYInternational application No.
PCT/JP2004/006074

JC20 Rec'd PCT/PTO 26 OCT 2005

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/006074

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2 8
	No: Claims	1 3-7 9-16
Inventive step (IS)	Yes: Claims	2 8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

IC20 Rec'd PCT/PTC International application No.

PCT/JP2004/006074

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document/s/:

D1: ETSI EN 300 743 V1.2.1 (06-2002); "Digital Video Broadcasting (DVB); Subtitling systems", XP14001876

D2: US2001/0026561 (4-10-2001), "Methods and apparatus for making and replaying digital video recordings and recordings made by such methods", PHILIPS.

D3: US-B-6 473 1021 (FULLERTON GUYERIK B ET AL) 29 October 2002 (2002-10-29)

D4: EP-A-0 920 014 (SONY CORP) 2 June 1999 (1999-06-02)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 3-7 and 9-16 is not new in the sense of Article 33(2) PCT.

1.1. Document **D1** discloses a method of ~~recording onto a recording medium, said method comprising:~~

producing application data (MPEG2 Transport Stream or TS packets, see figure 3 on page 13, Section 5 on pages 13 to 15); and

~~recording the produced application data in the recording medium, and~~
the application data includes a digital stream constituted by multiplexing a video stream and a graphics stream;

the video stream represents a moving picture made of a plurality of pictures and the graphics stream includes:

graphics data representing graphics to be combined with the pictures;

(**D1** is an ETSI standard for Digital Video Broadcasting with subtitling with graphics object in subsection 5.4.5 or character objects in section 5.4.6 on pages 17, 18) and

window information that specifies a window for rendering the graphics therein, the window information indicating a width, a height and a position of the window on a plane, (Page Composition Segments PCS or Region Composition Segments RCS in subsections 5.1.3 or 5.1.4 on pages 14, 15, and the Overview on Section 4.1, pages 8, 9, and see also subsections 7.2.1 on pages 20, 21, Sections 7.2.2 on pages 21 to 23, and subsection 7.2.4 on pages 25 to 30) the plane being a plane memory (~~of a reproduction apparatus that combines graphics with the pictures.~~

It is known from prior art that MPEG2 TS packets can be recorded on a recording medium and reproduced therefrom using a MPEG2 decoder (see for example **D2**). So the struck-out above features are implicitly present in **D1**, where the MPEG2-TS packets can either be transmitted via a transmission channel or recorded on a recording medium.

Therefore claim 13 is not new.

1.2. Claim 1 defines a recording medium having the data produced by the method of claim 13 recorded thereon. Thus claim 1 is not new.

1.3. **D1** discloses also a method of ~~reproducing~~ decoding a digital stream constituted by multiplexing a video stream and a graphics stream, said method comprising:
decoding the video stream so as to obtain a moving picture made of a plurality of pictures (Digital Video); and

rendering graphics so as to be synchronously displayed with the pictures (see figure 3 on page 13 and Section 5.1 "Decoder Temporal Model" on pages 13, 14, with epochs as well as subsection 5.1.2 "Presentation Time Stamps" (PTS) on page 14), and:

the graphics stream includes window information that specifies a part of the plane as a window for rendering the graphics therein (see point 1.1); and

said rendering of the graphics includes a clearing of the graphics in the window in a plane memory used for combining the graphics with the picture, and a writing of the graphics to the window in the plane memory (Display memory, see Section 5.2 "Buffer memory model" on page 16, and see Table 3 on page 20, "acquisition point" and subsection 5.1.1 on page 14 "Service acquisition").

As digital video with subtitles (MPEG2-TS packets) are also recorded and reproduced in the prior art (see point 1.1 and **D2**), the reproducing is implicitly disclosed in **D1**.

Thus claim 15 is not new.

1.4. Point 1.3 above applies mutatis mutandis to independent reproduction apparatus claim 6, which comprises all the technical features of method claim 15 but in terms of device means.

Thus claim 6 is not new.

1.5. Point 1.3 above applies mutatis mutandis to independent integrated circuit claim 16, which comprises all the technical features of reproduction apparatus claim 6.

Thus claim 16 is not new.

1.6. Point 1.3 above applies mutatis mutandis to independent program claim 14, which comprises code to implement all the steps of method claim 15.

Thus claim 14 is not new.

1.7. The additional features of claim 7 with respect to claim 6 to which it refers is that:

a) the graphics stream includes **compressed graphics data**; and

said graphics decoder includes

a') a processor operable to decode the compressed graphics data,

b) and a controlling unit operable to perform the clearing operation and the writing operation.

D1 discloses :

feature a) and a') : see page 10, last line, "pixel data within objects are compressed using run-length coding", and on page 12, "an object data segment with a graphical object contains run-length encoded bitmap colours, while a text object carries a string of one character codes"; and

feature b) that is a graphics decoder including a controlling unit operable to perform the clearing operation and the writing operation (See subsection 5.1.1 "Service acquisition" on page 14 and Table 3 on page 20).

Thus claim 7 is not new.

1.8. The additional feature of claim 9 with respect to claim 7 to which it refers is that

c) said graphics decoder includes an object buffer operable to store decompressed graphics data decoded by said processor;

d) the graphics stream includes control information that contains crop information specifying a cropping frame within a graphics object obtained by decoding the graphics data in the object buffer;

e) said controlling unit is operable to crop a part of the graphics object within the cropping frame; and

f) the graphics to be synchronously displayed with the pictures is the part of the graphics object within the cropping frame.

Feature c) is also present in **D1** (Figure 3: "Pre-processor and filters" and "coded data

buffer"). The pre-processing in **D1** is the decompression of run-length data and the "coded data buffer" stores the MPEG2 encoded decompressed data.

On page 20, lines 20-22, of the description it is defined that "a cropping rectangle is a cropping frame that is used to specify and crop a part of the Graphics Object, and corresponds to Region in the ETSI 300 743 standard (**D1**)". This implies that features d) and f) are also present in **D1**.

Feature e) "said controlling unit is operable to crop a part of the graphics object within the cropping frame" is also implicitly disclosed in **D1**, see for example note page 21, where a LOGO may be distorted or cropped.

Thus claim 9 is not new.

1.9. The additional feature of claim 10 with respect to claim 9 to which it refers is also disclosed in **D1**:

the control information contains position information (subsection 7.2.2 on page 21 "Region composition segment": "region_width", "region_height", "object_horizontal_position", "object_vertical_position") specifying a position in the window for rendering the part within the cropping frame; and

the part within the cropping frame is written to the window at the position specified by the position information.

So claim 10 is not new.

1.10. The additional feature of claim 3 with respect to claim 1, is that:

the graphics stream includes control information that contains crop information specifying a cropping frame within a graphics object obtained by decoding the graphics data; and

the graphics to be rendered in the window is a part of the graphics object within the cropping frame.

whereas the additional feature of claim 4 with respect to claim 3 to which it refers is that the control information contains position information specifying a position in the window for rendering the part of the graphics object within the cropping frame.

Following from points 1.8 and 1.9 above, these features are also not new, so claims 3 and 4 are not new.

1.11. The additional feature of claim 11 with respect to claim 10 to which it refers is that:

the graphics stream includes a plurality of pieces of control information;

the crop part and the position indicated by the crop information and the position information respectively in each piece of control information are different; and

said controlling unit is operable to realize one of scroll, wipe-in, wipe-out, cut-in, cut-out display effects by performing the clearing and writing of the graphics based on the crop information and the position information in each piece of control information. is also disclosed in **D1** where page are refreshed, updated, new objects are displayed etc. This is also known from **D3** and editing effects is also known from **D4**.

So claim 11 is not new.

1.12. The additional feature of claim 5 with respect to claim 4 is that:

the graphics stream includes a plurality of pieces of control information for realizing one of scroll, wipe-in, wipe-out, cut-in, and cut-out display effects; and

each of the pieces of control information includes the crop information and the position information that respectively specify a different cropping frame and a position.

Following from point 1.11 above this is also not new, thus claim 5 is not new.

1.13. The additional feature of claim 12 with respect to claim 6 to which it refers is that the apparatus, further comprises two plane memories constituting a double buffer, wherein the graphics is displayed by switching the display graphics from contents stored in one of said plane memories in said double buffer to contents stored in the other one of said plane memories.

Double buffering is also disclosed in **D1** (See Annex A, Section A.6, on page 40).

2. The combination of the features of independent claim 1 with the feature of dependent claim 2 and the combination of the features of independent claim 7 with the feature of dependent claim 8 is neither known from, nor rendered obvious by, the available prior art.

Claim 2 defines indeed a recording medium according to claim 1, wherein the width and height of the window are set so that a size of the window is $1/x$ of the plane, the plane corresponding to a size of each picture and x being a real number based on a ratio between a window update rate and a picture

display rate.

Claim 8 defines a reproduction apparatus according to claim 7, wherein a size of the window is set so as to be $1/x$ of the plane, x being a real number based on a ratio between a window update rate and a display rate of the video stream; and

the writing operation performed by said controlling unit is performed at a transfer rate based on the update rate of the window and the size of the window.

Notes : Claim 8 misses "the plane corresponding to a size of each picture" sentence.

On page 21 of **D1**, it is just mentioned that the "subtitle descriptor signals whether the associated subtitle data can be presented on any display or on displays of specific **aspect ratio** only", linking the size of a picture to a size of a window but *not to a window update rate or picture display rate*.